



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,560	09/15/2003	Tomoyoshi Yokota	Q77127(03280083US)	7979
23345	7590	11/16/2005	EXAMINER	
MCGUIREWOODS, LLP 1750 TYSONS BLVD SUITE 1800 MCLEAN, VA 22102				NGUYEN, HANH N
ART UNIT		PAPER NUMBER		
		2834		

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/661,560	YOKOTA ET AL. <i>[Signature]</i>	
	<b>Examiner</b>	<b>Art Unit</b>	
	Nguyen N. Hanh	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 01 September 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,3 and 5-18 is/are pending in the application.
- 4a) Of the above claim(s) 7,8,11,14 and 15 is/are withdrawn from consideration.
- 5) Claim(s) 5,6,12,13 and 17 is/are allowed.
- 6) Claim(s) 1,3,9,10 and 18 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 15 July 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### ***Remarks***

1. In view of amendments, the Examiner withdraws the objection and rejection under 35 U.S.C 103 (a) to claim 5. The withdrawal of claims 7, 8, 11, 14, 15 and the addition of claims 18-18 have been acknowledged.

### ***Response to Arguments***

2. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 10 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Baines (GB 2 209 878 A).

Regarding claim 1, Baines discloses a commutator motor, comprising: a stator comprising stator yoke (3 in Fig. 1) having tubular shape and extending in its axial direction and having an inner peripheral surface, and a field magnet (22 in Fig. 2) fixed to the inner peripheral surface of stator yoke for providing field magnetic pole in the stator; and an armature (29 in Fig. 2) rotatably disposed within the stator; wherein the stator yoke comprises at least one of (a) a plurality of plate-like annular bodies (4 in Fig. 1) having iron parts (Col. 4, lines 15-20) which are stacked on each other coaxially in

the axial direction of the stator yoke (Fig. 1), and (b) a plurality of substantially identically configured iron plate-like arcuate bodies disposed at such position as form a part of virtual annular bodies and which are stacked on each other coaxially in the axial direction of the stator yoke; and wherein the plurality plate-like annular bodies (4) or the plate-like arcuate bodies adjacent to each other in the stacked direction are fixedly connected each other by caulking (the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight) and wherein at least one pair of convex portions protrude radially inwardly from the inner peripheral surface of the stator yoke holding securely the field magnet between the convex portions.

Regarding claim 3, Baines also discloses a commutator motor wherein the plurality of plate-like annular bodies (4 in Fig. 1) or the plate-like arcuate bodies have an inner peripheral surface defining the inner peripheral surface of the stator yoke.

Regarding claim 10, Baines also discloses a commutator motor wherein the at least one pair of convex portions are linearly arrayed in an axial direction of the stator yoke on an inner peripheral surface thereof (Fig. 2).

Regarding claim 18, Baines also discloses a commutator motor wherein he at least one pair of convex portions is permanently formed in a circumferential direction of the stator yoke for holding the field magnet therebetween (Fig. 2).

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baines in view of Lordo (US Patent No. 4,453,097).

Regarding claim 9, Baines shows all limitations of the claimed invention except showing the commutator motor wherein the at least one pair of convex portions is disposed at positions of end portions of the field magnet (one end of field magnet contact leaf spring 23)

However, Lordo discloses an electric machine wherein the at least one pair of convex portions is disposed at positions of end portions of the field magnet (Fig. 4) for the purpose of providing a permanent magnet direct current motor having higher heat dissipation characteristics.

Since Baines and Lordo are in the same field of endeavor, the purpose disclosed by Lordo would have been recognized in the pertinent art of Baines.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Baines by making the stator wherein the at least one pair of convex portions is disposed at positions of end portions of the field magnet as taught by Lordo for the purpose of providing a permanent magnet direct current motor having higher heat dissipation characteristics.

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baines in view of Ogawa et al. (US Patent No. 5,847,903).

Regarding claim 16, Baines shows all limitations of the claimed invention except showing the commutator motor wherein the plurality of plate-like annular bodies each have a concave portion and are fixedly connected to each other by caulking the concave portion and mating to a convex portion of an adjacent one of the plurality of plate-like annular bodies.

However, Ogawa et al. disclose a rotary actuator wherein the plurality of plate-like annular bodies each have a concave portion and are fixedly connected to each other by caulking the concave portion and mating to a convex portion of an adjacent one of the plurality of plate-like annular bodies (Fig. 5 and Col. 4, lines 15-25) for the purpose of simplifying manufacturing process.

Since Baines and Ogawa et al. are in the same field of endeavor, the purpose disclosed by Ogawa et al. would have been recognized in the pertinent art of Baines.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Baines by making the stator wherein the plurality of plate-like annular bodies each have a concave portion and are fixedly connected to each other by caulking the concave portion and mating to a convex portion of an adjacent one of the plurality of plate-like annular bodies as taught by Ogawa et al. for the purpose of simplifying manufacturing process.

***Allowable Subject Matter***

6. Claims 5, 6, 12, 13 and 17 are allowed.
7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 5, the prior art of record does not show a commutator motor as described in claim 5 wherein a non-magnetic portion is defined by a hollow groove extending in the axial direction of the stator yoke and formed in the inner peripheral surface of the stator yoke with a depth of the groove extending partially into the stator yoke, and wherein the stator yoke has the non-magnetic portion at a substantially center portion of the field magnetic pole in a radial cross-section of the stator yoke.

Regarding claim 6, the prior art of record does not show a commutator motor wherein the stator yoke is constituted by a plurality of substantially identically configured iron plate-like arcuate bodies, and wherein the non-magnetic portion is made from a non-magnetic bar members extending in the axial direction of the stator yoke and held between confronting ends of the arcuate bodies, a combination of two arcuate bodies, and two non-magnetic bar members providing an annular body.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2834

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Information on How to Contact USPTO***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (571) 272-2031. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg, can be reached on (571) 272-2044. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HNN

October 4, 2005

DARREN SCHUBERG  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800